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Overcoming the legacy of marketization: China's response to Covid-19 and the fast forward of healthcare re-organisation

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Abstract

This Commentary looks at the recent experience of China's healthcare system in dealing with the Covid-19 outbreak. Focusing on events in the city of Wuhan between Dec 2019 and April 2002 it shows how, initially, the response to the pandemic was impaired by a legacy of past reforms that had required public health organizations such as hospitals and community healthcare centers to operate as mini businesses. By increasing service fragmentation, this legacy left China's healthcare system badly prepared for the recent crisis. Specifically, it resulted in poor intelligence and patients bypassing primary care to access larger tertiary hospitals, with consequences for overcrowding and spiraling infection rates. However, China's experience also points to the role of the City administration in overcoming these obstacles, using the established hierarchy to adopt a system wide perspective and quickly re-organize services. This involved formalizing the role of GPs in the gatekeeping and triage of patients with Covid-19 symptoms and in the process, helping to fast-forward earlier reforms aimed at improving service integration. This policy highlights the advantages of public ownership and control over healthcare in the Chinese case with implications not just for policy makers, but also managers and clinical leaders locally who must enact these changes.

Keywords: Covid-19; healthcare; primary care; integration

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'Having a healthcare system that's a public strategic asset rather than a business run for profit allows for a degree of coordination and optimal use of resources.' [1]

This remark by David Fisman, an epidemiologist at the University of Toronto, reflects the views of many policy makers and clinical professionals globally about the relative merits of different organizational models of healthcare for managing the Covid-19 pandemic. Covid-19 emerged in China in November 2019 and was declared a pandemic by the World Health Organization (WHO) on 11 March. At the time of writing, on 27 July 2020, more than 16.11 million cases of the virus have been reported globally, resulting in more than 646,641 deaths. Without doubt, responding to this crisis has placed and unprecedented demands on the expertise of public managers, notably those associated with healthcare. But as the opening quotation implies, it may be that these demands are far greater in systems where healthcare services are substantially commercialized and where the emphasis is on competition and fragmentation rather than integration. If this is the case, then how have policy makers and managers dealt with this organizational challenge and what can we learn from their initial responses?

The challenge of how to overcome fragmentation in health services and adopt a system-wide perspective has been one of the most significant wicked problems facing policy makers, managers and clinical leaders around the world. In any healthcare system, rising costs and resource constraints linked to more complex patient needs (associated with population gaining)

demand effective collaboration between different parts of a healthcare value chain: public health; primary/community care and specialist hospital services. Ideally this would involve a 'continuum of health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care services' [2, p.10].

But while this change is urgently needed (perhaps now more than ever) it is far from easy. Partly this is because of the historical imbalances in most healthcare systems, between well-resourced, high status, hospital services and underfunded primacy care. However, as David Fisman implies (above), it may be that these the challenges associated with integration are even greater when healthcare is a 'business run for profit' [1]. When that applies, private hospitals (and other organizations) will understandably focus mainly (if not exclusively) on their own financial viability, survival and reputation. The need to compete may trump any desire to collaborate.

This problem, one might expect, will be greatest in health systems where clinical services are substantially privately owned and funded, such as the US. According to David Himmelstein based at the City University of New York the 'fragmented system' of healthcare in the US has weakened the national response to Covid-19 because it 'leaves public health separate and disconnected from medical care, and provides no mechanism to appropriately balance funding priorities.' [1]. However, the risks of marketization and fragmentation also apply even to health care systems that are publicly owned. This is especially where governments have experimented with new public management (NPM) reforms [3]. These reforms have encouraged the 'disaggregation' of public sector bureaucracies, using outsourcing and internal (or quasi) markets to stimulate competition and improved performance.

Returning to the main concern of this Commentary, it is notable that China - the country where the Covid-19 pandemic originated - is a prime example of this market-led approach to healthcare. Contrary to its image as a centrally planned, command and control system, China has experimented over the years with many elements of NPM-style reform. This is notably in healthcare, where, since the late 1980s, publicly owned hospitals and other services have been expected to operate in some ways like private businesses [4]. In what follows we consider how this legacy of marketization influenced China's initial response to the Covid-19 pandemic. Focusing on events in the city of Wuhan we show how this legacy, by exaggerating service fragmentation, had serious consequences. However, this story also illustrates the benefits of a system where healthcare is a 'public strategic asset'. In China's case this made it possible for the city administration to adopt a system wide perspective and to quickly re-organize services in a time of crisis. The result has been to fast forward reforms aimed at healthcare integration, creating opportunities for managers and clinical leaders on the ground to develop integrated care pathways.

CHINA'S PUBLIC HEALTHCARE SYSTEM AND THE LEGACY OF MARKETISATION

In recent years China's total health expenditure has grown significantly, from 5% of GDP in 2009 to 6.4% in 2017 [5]. This growth has been associated with improvements in staffing levels, facilities and standards. It also went hand in hand with an extension of social health insurance, covering 95% of the population by 2011 [6]. However, marked disparities in access to services still remain between urban and rural areas, with average out of pocket expenses (30% in 2016) being high by international standards (ibid). As noted earlier, a further challenge facing China's

healthcare system has been poor integration and a significant gap in resources and capabilities between secondary (acute and tertiary hospitals) and primary and community services.

Although longstanding in China, this gap was greatly exaggerated by policies of 'unbridled marketization' [7, p.325] from the mid-1980s. For the most part hospitals and primary care organizations, such as community health centers (CHCs) in China are publicly owned and accountable to district, city and regional tiers of government. Nevertheless, after China's shift towards a market economy in 1984, these services were required to operate as semi-independent businesses (or state owned enterprises), funding themselves partly through profits from the mark up on drugs and diagnostic procedures [5]. Consistent with China's 'results-oriented culture in the bureaucracy' [8, p.43] it was felt that some degree of competition was the best way of ensuring accountability and performance.

However, unsurprisingly, this market based system generated perverse incentives for hospitals and CHCs to engage in over prescription and the irrational use of services and technology [9]. As mentioned, the policy of marketization also contributed to fragmentation. Providers were strongly incentivized to focus on maximizing their own turnover of patients to ensure continued financial viability. This weakened co-operation and helped to exaggerate disparities in funding and resources between parts of the system that were already substantial. Crucially, marketization ensured that higher status (upper tier) tertiary hospitals, which were already better placed to attract patients, obtained the lion share of funding. This allowed them to improve their facilities, staffing levels and service quality at the expense of primary care. The lower ability of CHCs to compete in this 'market', in turn, made it harder for them to recruit and train staff or invest in alternative, community based and preventative services, further undermining public confidence in the quality of their services and ultimately demand. The result,

according to the World Health Organization is a system that is 'hospital-centric, fragmented, and volume driven' [10, p.8]. Even today public hospitals provide over 80% of health services and consume 60% of all health expenditure [5]. And in 2016, the rate of hospital admission in China was 16.4%, higher than the average of the OECD [5].

Responding to these challenges in 2009, the Chinese government published *Opinions on Deepening Health System Reform*, highlighting their commitment to transform the funding and organisation of primary care. This led to a decision to replace the old funding system with a 'zero-mark up' policy and to invest heavily in primary care staff and facilities [9, p.1805]. The goal of integration was also supported by the establishment of Medical Alliances - close partnerships between tertiary hospitals and CHCs to manage admissions and rehabilitation discharge. However, while these reforms represented a 'historic opportunity' to build a '…well-coordinated and integrated health system' [11, p.11], by November 2019, on the eve of the Covid -19 outbreak, they were still incomplete. Crucially, uneven implementation of the reforms meant that perverse incentives for tertiary hospitals and CHCs to compete by trying to maximize their own income streams remained in place. Price mark-ups on drugs, for example, still accounted for 30% of public hospital income in 2018, while new fee-for-service payments, linked to performance (phased in after 2009) continued to generate incentives for them to maximize their patient throughput [9]. Partly for these reasons, the legacy of marketization in China's healthcare system was not eradicated, undermining the ability of CHCs to develop alternative services. Indeed, it is notable that between 2005 and 2015, the proportion of health care services provided by primary care in China actually decreased by 7% [5].

THE COVID-19 PANDEMIC: REACTING TO AND OVERCOMING SERVICE FRAGMENTATION

The initial shock

This failure to completely reverse the legacy of marketization of China's healthcare system had significant consequences for its initial response to Covid-19. In what follows we briefly explore two of these consequences, focusing on the experience of health practitioners and policy makers in the city of Wuhan between December 2019 and March 2020.

First, ongoing weaknesses in the primary healthcare system ensured that when the outbreak started, CHCs were unable to provide an early warning system. One of the objectives of the 2009 reforms was to establish a general practice (GP) profession in China, with a stronger focus on prevention and public health. However, according to Wu [12], many CHCs were only aware of Covid-19 outbreak around the time of the lockdown. Although there were increasing numbers of patients with fever in tertiary hospitals from end of December to mid-January, it was 'business as usual' for CHCs [12]. This observation is also confirmed by unpublished research conducted by the authors in Wuhan based on interviews with GPs in four CHCs between December 2019 and early January 2020. In all cases we observed no increase in patient numbers or early intelligence relating the pandemic.

Our second observation relates to how the hospital centric nature of China's healthcare system initially exaggerated the problems encountered in the first wave. Even before the outbreak, at the end of 2018, Wuhan's health commission reported said the occupancy rate of hospital beds was already at 94% [13]. This situation reached breaking point soon after the first

cases were detected. By mid-January, anxious and fearful patients did what they would normally do even when suffering mild cold symptoms: rush directly to tertiary hospitals [14]. On 29 January, Aljazeera reported a 'flood of patients in the initial days of the outbreak as people lined up in front of hospitals, hoping to get treatment' [15]. In total, 75,221 patients rushed to tertiary hospitals between 22 January and 27 January in Wuhan, most with mild symptoms [16]. While in January 2019, the fever clinics of Wuhan's hospitals had received a peak of 3,000 patients per day, this rose to 15,000 per day (at peak day) in January 2020 [17]. Similarly, the numbers entering Wuhan's Fifth Hospital A&E department increased from an average of 120 patients per day to over 500 patients on 22 January alone – the highest in its 97 years' history [16].

This sudden influx of patients led, in the early stages, to a near meltdown at Wuhan's tertiary hospitals, with dire consequences. Clinical professionals who witnessed this first hand talked about 'utter chaos' and how the system was 'completely unready for a situation like this.' [15]. This meant that some people with virus symptoms were denied full-time admission because no beds were available [18]. The rush to access tertiary hospitals and other facilities also led to widespread cross-infection and ultimately a hike in the number of fatalities, both among patients and busy hospital staff. In Wuhan's Zhongnan hospital, for example, between 1 and 28 January, it was estimated that 41% of cases were infected within hospital, 29% of whom were health care workers [16]. By 11 February, 1102 health care workers were infected with Covid-19 in Wuhan city alone, partly because of cross-infection in the overcrowded tertiary hospital [19].

The response

The story of how the Chinese healthcare system reacted to the initial surge in cases and ultimately brought the pandemic under control (at least at the time of writing) is well documented. One of the

most significant developments was the speedy establishment of new facilities and redeployment of clinical professionals and managers. New Fangcang shelter hospitals were built from scratch and used to triage patients and treat patients with minor illnesses [16]. However, in light of the previous discussion what is noteworthy is how, under crisis conditions, the Wuhan government was also able to fast forward reforms leading the greater integration of local healthcare services. This involved the suspension of markets as a means of coordinating services and instead mobilizing the authority of higher tiers of government to implement changes quickly.

Two early policy initiatives illustrate this approach. First was to establish, almost overnight, a formal gatekeeping and triage role for primary care services which, previously, had been largely bypassed by patients [9]. Immediately after the lockdown, Wuhan Municipal government enrolled CHCs into the fight against Covid-19, formally allocating CHCs the tasks of triage and referral [16]. Patients with symptoms of cough and fever were told to go directly to CHCs to receive initial diagnosis and then access tertiary hospital services only if referred [16]. Of the 203 CHCs in Wuhan, 199 were designated for Covid-19 screening and triage, with 10 also able to treat patients with symptoms [20]. As a result of this speedy intervention 'The Fangcang shelter hospitals in Wuhan were integrated into the overall health systems via simple pathways of referral and transfer' [21, p1308]. Subsequently the number of patients entering the fever clinics of tertiary hospitals fell by 50%, helping to reduce overcrowding and the risks of cross-infection [22].

A second, related, intervention was to re-deploy surplus clinical expertise (including GPs) from primary care to other parts of the system, notably the Fangcang shelter hospitals (see above). This allowed GPs to get more involved in helping to manage and treat patients with minor symptoms, tasks which they were expected to perform previously but had been unable to do because of falling number of patients using CHC services [12]. This also increased the role of GPs

in the support of patients recovering from the virus, helping with psychological counseling and follow-up treatment [23]. In support of this policy, the Wuhan city government promised to increase the salaries of CHC health care workers by as much as 86.3% per year [24].

These interventions in Wuhan are all consistent with the intent of the 2009 reforms to integrate primary care (see above) [5] and in some respects have accelerated that process. According to Chang (2020) 'After the epidemic ebbs, the Chinese government will likely double-down on improving the quality and availability of CHCs' [20]. In a speech delivered on 14 February, Xi Jingpin stated that a key priority was 'strengthening the construction of public health teams and capacity building of CHCs in prevention and control…so that problem can be solved in its cradle [25]. Similarly, Ma Xiaowei, Director of the National Health Committee, emphasized the need in future for CHCs to act as sentinels for 'early detection, early diagnosis, early isolation, and early treatment' [23, p1200].

CONCLUDING THOUGHTS

This story of how China's healthcare system responded to the Covid-19 highlights two key messages. First, is with regard to the risks of marketization in public health services, specifically how it may interfere with 'coordination and the optimal use of resources' [1]. In China, over the past twenty years, the exposure of hospitals and CHCs to market forces generated perverse incentives leading to an unbalanced (hospital centric) and poorly integrated healthcare system. These failings were thrown into sharp relief by the Covd-19 crisis.

Second, and more tentatively, this story illustrates how a healthcare system that operates in the public domain can quickly overcome many of the above challenges. Notably, it reveals how, in times of crisis, the apparatus of a state bureaucratic hierarchy might be effectively

employed for the wider public good. In China's case, this led to the immediate suspension of the (market based) funding model and the rapid re-deployment of staff and resources to deal with the Covid-19 threat. Interestingly this process also helped to fast forward much needed reforms (originally set in motion in 2009) fostering, at least temporarily, a system-wide perspective. In this respect observations about the Chinese experience run somewhat against the grain of much contemporary thinking and wisdom in the public administration field [3]. The latter emphasizes the failings of bureaucracy and top down planning, highlighting instead the need for competition to re-invigorate public services. But China's recent experience suggests is that marketization comes with certain liabilities and that, in order to correct these it may be necessary to fall back on a command and control governance model, however unfashionable that may seem.

These conclusions mainly highlight the policy dimension of China's response to Covid-19. However, macro level policy decisions also had to be enacted by managers and clinical leaders within CHCs and Fangcang shelter hospitals, with implications for leadership practice more generally. Important in this regard are the project management and communication skills required to establish new training pathways for referral and transfer of Covid-19 patients between formally separate organizations. There have also been significant challenges of ensuring effective teamwork between primary care professionals (GPs), re-deployed to the shelter hospitals, and specialist doctors. The difficulty of managing this process was greatly exaggerated in China by clinical skill gaps in primary care and by the lower salaries of GPs, which may well have dented the enthusiasm of some professionals to engage [21]. Although we have not explored these concerns in detail, the available evidence suggests that operational challenges of enacting policy were significant in Wuhan during the crisis. This evidence further highlights the

critical role of managers in mediating this process and of front line clinicians who stepped up into leadership roles [21, 23].

Of course, when making these observations, it is important to emphasize caveats and directions for future research. While we have emphasized the benefits of China's command and control approach in times of crisis it is open to question how well this would operate under normal conditions. Nor is it clear that the re-configuration of services that took place in Wuhan can be sustained. Without doubt 'the role of CHCs has been shifted from an outsider to a strategic partner in the fight against Covid-19' [26, p25], but will this important shift in practice be scaled up in future or even retained?

Lastly, are bigger questions about the relevance of China's experience in addressing the Covid-19 challenge to other health systems? On the one hand, our story is consistent with the thrust of our opening quotation from David Fisman about the general benefits of healthcare systems that are 'public strategic assets' rather than 'businesses run for profit' [1]. Yet this same conclusion might not necessarily be drawn about other publicly funded and managed healthcare systems, such as Italy or the UK, which, to date at least, appear to have performed less well. In this regard, it is important to strike a note of caution. While command and control governance has arguably been a necessary condition for helping to manage the Covid-19 crisis, as the international experience shows so far, it may not be sufficient.

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